Amendments to the Claims

1 1. (currently amended) A method for processing a compressed input video,

2 comprising:

3   decoding the compressed input video to produce an interlaced picture,

4 ~~and macroblock coding information of the input video,~~ the interlaced picture

5 having a first spatial resolution, and a top-field and a bottom-field; ~~and~~

6   <u>producing, for each macroblock in the interface picture, a macroblock</u>

7 <u>coding type and a macroblock transform type;</u>

8   filtering adaptively <u>while downsampling</u> the top-field and the bottom-

9 field of the interlaced picture according to the ~~macroblock coding information~~

10 <u>macroblock coding type and the macroblock transform type</u> to produce a

11 progressive picture with a second spatial resolution less than the first spatial

12 resolution<u>, in which the filtering and the downsampling is performed jointly;</u>

13 <u>and</u>

14   <u>encoding the progressive picture.</u>

    2. (canceled)

1 3. (currently amended) The method of ~~claim 2~~ <u>claim 1</u>, in which the macroblock

2 coding type includes intra-coding and inter-coding.

1 4. (currently amended) The method of ~~claim 2~~ <u>claim 1</u>, in which the macroblock

2 transform type includes a frame-based transform and a field-based transform.

1 5. (currently amended) The method of ~~claim 2~~ claim 1, in which the macroblock

2 coding ~~information~~ type further includes a macroblock motion type and

3 corresponding motion vector when the macroblock coding type is inter-coding.

1 6. (original) The method of claim 5, in which the macroblock motion type

2 includes frame-based and field-based.

1 7. (original) The method of claim 1, in which the filtering includes frame-based

2 filtering and field-based filtering.

1 8. (original) The method of claim 7, in which the filtering is field-based

2 when the macroblock coding type is inter-coding and the macroblock motion

3 type is field-based.

1 9. (currently amended) The method of claim 7, in which the filtering is field-

2 based when the macroblock coding type is inter-coding, the macroblock

3 motion type is frame-based, and ~~the~~ an absolute value of motion vectors

4 corresponding to the macroblock are ~~greater~~ less than a threshold.

1 10. (original) The method of claim 9, in which the threshold equals zero.

1 11. (original) The method of claim 9, in which the threshold is greater than

2 zero.

1   12. (original) The method of claim 7, in which the filtering is field-based

2   when the macroblock coding type is intra-coding and the macroblock

3   transform type is field-based.

1   13. (original) The method of claim 7, in which the filtering is frame-based

2   when the macroblock coding type is intra-coding and the macroblock

3   transform type is frame-based.

1   14. (currently amended) The method of claim 7, in which the filtering is

2   frame-based when the macroblock coding type is inter-coding and the

3   macroblock motion type is frame-based, and ~~the~~ an absolute value of motion

4   vectors corresponding to the macroblock are ~~less~~ greater than or equal to ~~the~~

5   a threshold.

1   15. (original) The method of claim 7, in which the filtering is frame-based

2   and operates on input samples from the top-field and bottom-field of the

3   interlaced picture.

1   16. (original) The method of claim 7, in which the filtering is field-based and

2   operates on input samples from the top-field or bottom-field.

1   17. (original) The method of claim 7, in which the filtering is field-based and

2   operates on input samples from the bottom-field.

1   18. (currently amended) The method of claim 1, ~~further comprising:~~ in

2   which the encoding compresses the progressive picture.

3   ~~encoding the progressive picture to an output video.~~

4

5   19. (original) The method of claim 1, further comprising:

6   rendering the progressive picture on a display device.

1   20. (currently amended) A system for processing a compressed input video,

2   comprising:

3   means for decoding the compressed input video to produce an interlaced

4   picture, and ~~macroblock coding information of the input video~~ producing, for

5   each macroblock, a macroblock coding type and a macroblock transform type,

6   the interlaced picture having a first spatial resolution, and a top-field and a

7   bottom-field; and

8   means for filtering, adaptively, while downsampling the top-field and the

9   bottom-field of the interlaced picture according to the ~~macroblock coding~~

10 ~~information~~ macroblock coding type and the macroblock transform type to

11 produce a progressive picture with a second spatial resolution less than the first

12 spatial resolution;

13 an encoder configured to compress the progressive picture.